

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

Claim 1 (Original): A polymer composition comprising

- a) a multimodal high density polyethylene (A); and
- b) a low density polyethylene (B).

Claim 2 (Original): A composition according to claim 1 characterized in that the composition has a MFR<sub>2</sub>, according to ISO 1133, at 190 °C, of 5 to 20 g/10min.

Claim 3 (Original): A composition according to claim 2 characterized in that the composition has a density, according, to ISO 1183-1987, of 930 to 950 kg/m<sup>3</sup>.

Claim 4 (Currently amended): A composition according to claim 1 ~~any one of the preceding claims~~ characterized in that the polyethylene (A) has a density, according to ISO 1183-1987, of 950 to 968 kg/m<sup>3</sup>.

Claim 5 (Currently amended): A composition according to claim 1 ~~any one of the preceding claims~~ characterized in that the polyethylene (A) has a melt flow rate MFR<sub>2</sub>, according to ISO 1133, at 190 °C, of 5 to 20 g/10 min.

Claim 6 (Currently amended): A composition according to claim 1 ~~any one of the preceding claims~~ characterized in that the polyethylene (A) has a weight average molecular weight M<sub>w</sub> of 50000 to 150000 g/mol.

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Claim 7 (Currently amended): A composition according to claim 1 ~~any one of the preceding claims~~ characterized in that the polyethylene (A) is bimodal.

Claim 8 (Currently amended): A composition according to claim 1 ~~any one of the preceding claims~~ characterized in that the polyethylene (A) comprises ethylene homopolymer and/or ethylene copolymer.

Claim 9 (Currently amended): A composition according to claim 8 characterized in that the ethylene copolymer comprises ethylene and at least one C<sub>3</sub> to C<sub>20</sub> olefin ~~olefine~~.

Claim 10 (Currently amended): A composition according to claim 1 ~~any one of the preceding claims~~ characterized in that the comonomer content in the polyethylene (A) is 0.1 to 1.0 % by mole.

Claim 11 (Currently amended): A composition according to claim 1 ~~any one of the preceding claims~~ characterized in that the polyethylene (A) comprises a low molecular weight fraction (LMW) and a high molecular weight fraction (HMW).

Claim 12 (Original): A composition according to claim 11 characterized in that the polyethylene (A) comprises 40 to 60 % by weight of the low molecular weight fraction (LMW).

Claim 13 (Currently amended): A composition according to claim 11 ~~or 12~~ characterized in that the low molecular weight fraction (LMW) is a homopolymer.

Claim 14 (Currently amended): A composition according to claim ~~any one of the preceding claims 11 to 13~~ characterized in that the comonomer content is lower than 0.2 % by mole in the low molecular weight fraction (LMW).

Claim 15 (Currently amended): A composition according to claim ~~any one of the preceding claims 11 to 14~~ characterized in that the low molecular weight fraction (LMW) has a density, according to ISO 1183-1987, of at least 973 kg/m<sup>3</sup>.

Claim 16 (Currently amended): A composition according to claim ~~any one of the preceding claims 11 to 15~~ characterized in that the low molecular weight fraction (LMW) has a melt flow rate MFR<sub>2</sub>, according to ISO 1133, at 190 °C, of 100 to 2000 g/10 min.

Claim 17 (Currently amended): A composition according to claim ~~any one of the preceding claims 11 to 16~~ characterized in that the low molecular weight fraction (LMW) has a weight average molecular weight M<sub>w</sub> of 10000 to 60000 g/mol.

Claim 18 (Currently amended): A composition according to claim ~~any one of the preceding claims 11 to 17~~ characterized in that the high molecular weight fraction (HMW) is an ethylene copolymer.

Claim 19 (Currently amended): A composition according to claim 18 characterized in that the ethylene copolymer comprises ethylene and at least one C<sub>3</sub> to C<sub>20</sub> ~~α-olefin~~ olefine.

Claim 20 (Currently amended): A composition according to claim ~~any one of the preceding claims 18 to 19~~ characterized in that the comonomer content in the high molecular weight fraction (HMW) is 0.2 to 2.0 % by mole.

Claim 21 (Currently amended): A composition according to claim ~~any one of the preceding claims 18 to 20~~ characterized in that the high molecular weight fraction (HMW) has a weight average molecular weight M<sub>w</sub> of 80000 to 300000 g/mol.

Claim 22 (Currently amended): A composition according to claim 1 ~~any one of the preceding claims~~ characterized in that the polyethylene (B) is long chain branched.

Claim 23 (Currently amended): A composition according to claim 1 ~~any one of the preceding claims~~ characterized in that the polyethylene (B) has a density, according to ISO 1183-1987, of 910 to 935 kg/m<sup>3</sup>.

Claim 24 (Currently amended): A composition according to claim 1 ~~any one of the preceding claims~~ characterized in that the polyethylene (B) has a melt flow rate MFR<sub>2</sub>, according to ISO 1133, at 190 °C, of 3 to 15 g/10 min.

Claim 25 (Currently amended): A composition according to claim 1 ~~any one of the preceding claims~~ characterized in that the polyethylene (B) is ~~[[a]]~~ an ethylene copolymer.

Claim 26 (Original): A composition according to claim 25 characterized in that the ethylene copolymer comprises ethylene and at least one component selected from the group consisting of vinyl acetate, vinyl acrylate, vinyl methacrylate, ethyl acrylate, methyl acrylate and butyl acrylate.

Claim 27 (Currently amended): A composition according to claim 1 ~~any one of the preceding claims~~ characterized in that the composition comprises 40 to 99 % by weight polyethylene (A) and 1 to 60 % by weight polyethylene (B).

Claim 28 (Currently amended): A composition according to claim 1 ~~any one of the preceding claims~~ characterized in that that the composition comprises additionally

- c) other polymer(s) up to 20 % by weight.

Claim 29 (Currently amended): A composition according to claim 1 ~~any one of the preceding claims~~ characterized in that that the composition comprises additionally

- d) antioxidant(s) and/or process stabilizers of less than 2000 ppm.

Claim 30 (Currently amended): A composition according to claim 1 ~~any one of the preceding claims~~ characterized in that that the coated product comprising a composition according to any one of the ~~claims~~ claim 1 ~~to 27~~, having a coating weight of 20g/m<sup>2</sup> has a vapor transmission rate (WVTR), according to ASTM E96, of less than 15.5 g/m<sup>2</sup>/24h.

Claim 31 (Currently amended): A multi-layer material comprising

- a) a substrate as a first layer
- b) a polymer composition according to claim 1 ~~any one of the preceding claims~~ as at least a further layer.

Claim 32 (Original): A multi-layer material according to claim 31 characterized in that the substrate is selected from the group consisting of paper, paperboard, aluminum film and plastic film.

Claim 33 (Currently amended): A process for producing a composition according to claim 1 ~~any one of the preceding claims 1 to 30~~ characterized in that

- a) the polyethylene (A) is produced in a multistage process comprising a loop reactor and a gas phase reactor, wherein the low molecular weight fraction is generated in at least one loop reactor and the high molecular weight fraction is generated in a gas phase reactor

- b) the polyethylene (B) is produced by a free radical polymerization in a high pressure autoclave process
- c) polyethylene (A) and polyethylene (B) are blended together and compounded by using an extruder.

Claim 34 (Original): A process according to claim 33 characterized in that the catalyst used for the process producing the polyethylene (A) is a high activity pro-catalyst comprising a particulate inorganic support, a chlorine compound deposited on the support, wherein the chlorine compound is the same as or different from the titanium compound, whereby

the inorganic support is contacted with an alkyl metal chloride which is soluble in non-polar hydrocarbon solvents, and has the formula  $(R_nMeCl_{3-n})_m$  wherein R is a  $C_1$  to  $C_{20}$  alkyl group, Me is a metal of group III(13) of the periodic table,  $n = 1$  or  $2$  and  $m = 1$  or  $2$ , to give a first reaction product, and

the first reaction product is contacted with a compound containing hydrocarbyl and hydrocarbyl oxide linked to magnesium which is soluble in non-polar hydrocarbon solvents, to give a second reaction product, and the second reaction product is contacted with a titanium compound which contains chlorine, having the formula  $Cl_xTi(OR^{IV})_{4-x}$ , wherein  $R^{IV}$  is a  $C_2$  to  $C_{20}$  hydrocarbyl group and  $x$  is  $3$  or  $4$ , to give the pro-catalyst.

Claim 35 (Currently amended): A process for producing a multi-layer material according to ~~any one of the claims~~ claim 31 ~~to 32~~ characterized in that polymer composition according to ~~any one of the claims~~ claim 1 ~~to 30~~ is applied on the substrate by a film coating line comprising an unwind, a wind, a chill roll and a coating die.

Claim 36 (Currently amended): Use of the polymer composition according to ~~any one of the claims~~ claim 1 ~~to 30~~ for extrusion coating.

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Claim 37 (Original): Use according to claim 36 characterized in that the polymer composition is used for extrusion coating producing a multi-layer material.